

**STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**STAFF REPORT FOR REGULAR MEETING OF April 20-21, 2023**

Prepared on April 4, 2023

**ITEM NUMBER:** 11

**SUBJECT:** City of Watsonville, Pinto Lake Harmful Algal Blooms Update

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**KEY INFORMATION**

**Location:** Pinto Lake, Watsonville, Santa Cruz County, CA

**ACTION:** Information/Discussion

**SUMMARY**

Jackie McCloud, Environmental Sustainability Manager for the City of Watsonville, will present an update on Harmful Algal Blooms (HABs)<sup>1</sup> management and Total Maximum Daily Load (TMDL)<sup>2</sup> implementation at Pinto Lake. The presentation will also cover recent water quality and cyanobacteria monitoring data collected in coordination with UC Santa Cruz, next steps for management practices in the watershed, and ongoing coordination with the California Cyanobacteria and Harmful Algal Bloom (CCHAB) Network.

Pinto Lake is a valuable resource for the surrounding disadvantaged communities near Watsonville. In the 1980's, harmful algal blooms started to appear in the lake. Decades of sediment loading and fertilizer runoff in the watershed contributed to nutrient rich deposits in the lake bottom sediment that fueled the HABs.

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<sup>1</sup> HABs are overgrowth of algae in water that produce health risks to humans, animals, and the environment. In Pinto Lake, cyanobacteria (also known as blue-green algae) can produce toxins, posing a health risk to aquatic organisms and their predators (e.g., wildlife and human fishermen) and reducing the amount of oxygen dissolved in the water column that is necessary for aquatic organism survival.

<sup>2</sup> The Pinto Lake TMDL and implementation plan to address cyanobacterial blooms was adopted by the Central Coast Water Board in July of 2020 and approved by the Office of Administrative Law in September 2021. The TMDL documents are available on this website:  
[https://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/tmdl/docs/pinto\\_lake/](https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/pinto_lake/)

In coordination with several local partners, the City of Watsonville has implemented multiple grant funded projects<sup>3</sup> to reduce nutrient loading to the lake and to sequester phosphorus in the lake bottom sediments.<sup>4</sup> These actions are aligned with the TMDL implementation strategy. The Central Coast Water Board's 2018 [water quality report card for Pinto Lake](#)<sup>5</sup> summarized data showing the effectiveness of the 2017 alum treatment<sup>6</sup> to sequester phosphorus in lake bottom sediments. The success of this treatment was also evident by the reduction in the number and duration of Pinto Lake closures due to the HABs in 2017, when compared to the prior two years. However, the effectiveness of alum declines over time. Six years after the application in Pinto Lake, data document some increases in HABs.

The City of Watsonville will discuss next steps and strategies for ongoing management of Pinto Lake and the recreational uses that are so valuable to the local communities.

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<sup>3</sup> For more information on the grants awarded to plan for and implement various nutrient load reduction actions in and around Pinto Lake, see the TMDL Implementation Strategy Report, section 4.15: [https://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/tmdl/docs/pinto\\_lake/2020/item9\\_att3.pdf](https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/pinto_lake/2020/item9_att3.pdf)

<sup>4</sup> City of Watsonville website summarizing Pinto Lake Restoration Efforts: <https://www.cityofwatsonville.org/728/Pinto-Lake-Restoration-Efforts>

<sup>5</sup> Report Card website: [https://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/tmdl/docs/pinto\\_lake/r3\\_pintolake\\_2018.pdf](https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/pinto_lake/r3_pintolake_2018.pdf)

<sup>6</sup> Alum (short for aluminum sulfate) creates a physical barrier that retards the release of phosphorus from sediments in the lake. According to the North American Lake Management Society, alum applications are effective for five to 15 years.